# 1970

# SCSC

SUMMER

COMPUTER

SIMULATION

CONFERENCE

JUNE 10, 11 AND 12 DENVER, COLORADO

#### GENERAL CHAIRMAN

David R. Miller Denelcor, Inc. 5975 Broadway Denver, Colorado 80216 (303) 892-0987

#### PROGRAM CHAIRMAN

Takeshi Utsumi Stone & Webster Engineering Corporation 225 Franklin Street Boston, Massachusetts 02107 (617) 434-5316

#### TREASURER

Robert J. Herbold Procter & Gamble Miami Valley Laboratories P. O. Box 39175 Cincinnati, Ohio 45239 (513) 738-1111

#### PUBLICITY CHAIRMAN

Owen P. Hall, Jr.
Applied Technology Dept.
Systems Group of TRW Inc.
One Space Park
Redondo Beach, California 90278
(213) 679-8711 x63995

#### REGISTRATION CHAIRMAN

Donald Lusty
Electronics Associates Inc.
2120 S. Ash St.
Denver, Colorado 80222
(303) 757-8341

#### ARRANGEMENTS CHAIRMAN

William Schmidt Computing Corp. of America 3375 S. Bannock Englewood, Colorado 80110 (303) 761-2722

#### CONFERENCE COORDINATOR

Robert Brennen IBM 2670 Hanover St. Palo Alto, California 94303 (415) 328-3784

#### TECHNICAL PAPER COMMITTEE

Roy N. Adams
Electrical Engineering Dept.
Tennessee Technological University
Cookeville, Tennessee 38501

### 1970 SUMMER COMPUTER SIMULATION COMPUTER

June 10, 11, 12, 1970

Denver Hilton Hotel

Denver, Colorado

Sponsored by ACM/IEEE/SHARE/SCi

#### ABOUT THE CONFERENCE

The 1970 SCSC is devoted to technical exchange in the field of dynamic system simulation. Applications in the various disciplines of the physical and social sciences, engineering, biomedicine, and socio-economics will be given primary emphasis. Both Continuous and Discrete system simulation approaches will be represented. Papers will emphasize conceptual aspects of computer simulation, language characteristics and computational techniques.

1970 SCSC was organized in response to the interest generated by the 1969 Conference on Applications of Continuous System Simulation Languages. The scope of 1970 SCSC was significantly broadened in recognition of growing rapport between continuous and discrete system simulation practitioners and between the advocates of analog, hybrid, and digital computation.

The three day program will include twenty eight technical sessions and five panel/forum discussion periods. To minimize conflicts between concurrent sessions and assure consistantly high quality standards for the presentations, the program has been divided into eight topical groups: Continuous and Discrete Simulation Languages; Hybrid Simulation; Process Industrial Applications: Aerospace and Mechanical Industries; Earth Environment; Civil Systems; and Panel/Forum Discussions.

The cocktail reception, the conference luncheon, and spontaneously organized "informal" sessions will provide extra opportunities for exchange of ideas and techniques. No matter what your "bag", there will always be a paper or session of interest to attend.

#### GENERAL INFORMATION

#### Acknowledgement

The 1970 Summer Computer Simulation Conference is sponsored by the ACM (Association for Computing Machinery), IEEE (Institute of Electrical and Electronics Engineers), SHARE (an IBM user group), and SCI (Simulation Councils, Inc.)

#### Headquarters Hotel

All sessions will be held at the Denver Hilton Hotel, Denver, Colorado.

#### Housing

The Conference Committee will not make room reservations. A block of rooms has been reserved at the Denver Hilton Hotel for conference attendees. Kindly communicate directly with the hotel using the hotel reservation form which will be with the final program. When using company or personal stationery, please be sure to specify that you will be attending 1970 SCSC. Hotel reservation forms must be mailed no later than May 15, 1970.

#### Registration

\$45.00 Advance Registration — Member \$50.00 Advance Registration — Nonmember \$50.00 At the Conference — Member \$55.00 At the Conference — Nonmember

The fee includes one luncheon, coffee service, and one copy of the Conference Proceedings. The fee schedule encourages advance registration and membership in one or more of the sponsoring societies. Advance registration forms must be mailed no later than May 15, 1970.

#### Conference Proceedings

The Conference Proceedings include the full text of all presented papers. Each registrant will receive one copy of the proceedings at the conference. Additional copies may be purchased at the conference (cash-and-carry) for \$12.00. After the Conference, mail orders will be accepted at \$15.00 each prepaid. When ordering use the enclosed form.

#### Ladies Program

Arrangements have been made for a ladies luncheon and fashion show in Larimer Square, and a number of delightful opportunities exist within the Denver area for family recreation. Individual tours of Denver and other nearby attractions can be arranged through the hotel staff.

### **TECHNICAL PROGRAM**

### GROUP I. CONTINUOUS AND DISCRETE SIMULATION LANGUAGES

Group Session Chairman: Donald H. Niesse McDonnel Automation Co.

Session I-I Introduction to Continuous System Simulation Languages

Chairman: Donald A. Gall University of Pittsburgh

Session I-2 Advanced Techniques in Continuous System
Simulation Languages
Chairman: M. C. Gilliland

Chairman: M. C. Gilliland

MacNeal-Schwendler Corp.

Session I-3 Design Consideration for Continuous System Simulation Languages

Chairman: Young Ju Lee Spectrodata Inc.

Session I-4 Introduction to Discrete Simulation Languages

Chairman: Albert S. Jackson Milgo Electronic Corp.

Session I-5 Advanced Techniques of Discrete Events
Simulations

Chairman: W. Earl Sasser Harvard Business School

Session I-6 Simulation in the University Environment

Chairman: W. Earl Sasser

Carnegie-Mellon University

#### GROUP II. HYBRID SIMULATION

Group Session Chairman: Walter Brunner

brid Computer

Cybernetic Research and De-

velopment Corp.

Session II-I Time Sharing for the Interaction of Simulation and Instrument Data

Chairman: Richard A. Nesbit
Bechman Instruments Co.

Session II-2 Simulation of Stochastic Systems with Hy-

Chairman: Granino A. Korn University of Arizona

#### GROUP III. PROCESS INDUSTRIAL APPLICATIONS

Group Session Chairman: Carsten Aamand The Foxboro Co.

Session III-I Simulation in the Food and Drug Industries Chairman: Robert J. Herbold Procter & Gamble

Session III-2 Simulation in the Petroleum and Chemical Process Industries Part A
Chairman: R. G. E. Franks

E. I. duPont de Nemours & Co.

Session III-3 Simulation in the Steel and Paper Industries
Chairman: D. E. Lamb
University of Delaware

Session III-4 Simulation in Water Desalination
Chairman: Robert Nalbone
Burns & Roe Co.

Session III-5 Simulation in the Petroleum and Chemical Process Industries Part B
Chairman: R. G. E. Franks

#### GROUP IV. AEROSPACE AND MECHANICAL INDUS-TRIES

Group Session Chairman: Richard Baxter

United Aircraft Corp.

E. I. duPont de Nemours & Co.

Session IV-I Simulation in Mechanical Engineering

Chairman: G. W. Kibbee Douglas Aircraft

Session IV-2 Simulation in Control Design
Chairman: Bruce A. Chubb
Lear Siegler, Inc.

Session IV-3 Simulation in the Aerospace Industries

Chairman: Erick Sturcke

Lockheed California Co.

Session IV-4 Simulation in Marine Engineering
Chairman: E. G. Frankel
M.I.T.

Session IV-5 Simulation in the Automotive Industries

Chairman: Raymond R. McHenry

Cornell Aeronautical Laboratory,

#### GROUP V. EARTH ENVIRONMENT

Group Session Chairman: William Williams

Univ. of Calif. at Davis

Session V-I Simulation in the Plant Sciences

Chairman: C. T. deWit

State Agricultural University Wageningen, Netherlands

Session V-2 Simulation in Bio-Medical Engineering

Chairman: Irving Miller

Polytechnic Inst. of Brooklyn

Session V-3 Simulation in Environmental Engineering

Chairman: Glenn Hilst

Traveler's Research Corp.

Session V-4 Simulation in Earth Science, Oceanography, and Petroleum Engineering

Chairman: M. K. Horn

Cities Service Oil Company

Session V-5 Simulation in Meteorology

Chairman: Akira Kasahara

Nat. Center for Atmospheric Re-

search

#### GROUP VI. CIVIL SYSTEMS

Group Session Chairman: Robert J. Meyer

Honeywell, Inc.

Session VI-I Simulation in Industrial Dynamics

Chairman: Carl Thorsten

ESSO Mathematics and Systems,

inc.

Session VI-2 Simulation in Non Industrial Applications

Chairman: Norbert Hauser

Polytechnic Inst. of Brooklyn

Session VI-3 Simuation in Socio-Economics

Chairman: M. McCarthy

Wharton Econometrix Forecast-

ing Assoc.

Session VI-4 Simulation in Communication

Chairman: Tomio Katsura

White Sands Missile Range

Session VI-5 Simulation in the Power Industries

Chairman: Richard M. Rome

Stone & Webster Engr. Corp.

	\
GROUP VII. PANEL AND FORUM DISCUSSION	1970 SCSC Registration Form
Group Panel Chairman: William E. Schiesser Lehigh University	Use this form stacsimile for advance registration; it must be mailed no later than May 15.
Panel VIII-I "Discrete-Event and Continuous System Simulation: Where We Are—Where We Should Be Going"  Moderator: P. J. Kiviat	Please mail form with check made payable to "1970 Summer Computer Simulation Conference" to:  MAIL TO: Donald Lusty 1970 SCSC Registration Chairman
Simulation Associates, Inc.  Panel VIII-2 ''Trade-offs Between CSSL's and Hybrid Simulation''  Moderator: Michael Burwen Basic Computing Arts, Inc.	c/o Electronics Associates, Inc. 2120 S. Ash Street Denver, Colorado 80222
Panel VIII-3 "Comparative Study of Numerical Integra- tions"  Moderator: Hinrich R. Martens State Univ. of New York at Buf- falo	Name
Panel VIII-4 "Developments of Continuous Digital Simulation Languages"  Moderator: Sanford A. Schram Xerox Data Systems	City State Zip  ( ) Enclosed is \$45.00 advance registration fee. I am a
Forum VIII-5 "Future directions for SCSC" Chairman: Takeshi Utsumi Stone & Webster Engr. Corp.	member of the following sponsor (circle)  ACM IEEE SHARE SCI
Please note: This is only the advance program. If interested in attending 1970 SCSC, send the attached form TO-DAY so that you will be sure to receive the final program when available. Final programs will be mailed only to those who respond.	<ul> <li>( ) Enclosed is \$50.00 advance registration fee. I am no a member of any of the sponsoring societies.</li> <li>( ) Please send a copy of the complete technical program as soon as available. (Note — The complete program will automatically be sent to all advance registrants)</li> <li>Hotel reservation forms will be mailed with the final program</li> </ul>
1970 SCSC Conference Proceedings Order Form  ( ) Enclosed is for additional copies of the 1970 SCSC Conference Proceedings at \$15.00 per copy.	MAIL TO: The Order Department Association for Computing Machinery 1133 Avenue of the Americas New York, New York 10036 SEND PROCEEDINGS TO:
( ) Enclosed is for additional copies of the Proceedings of the Conference on Applications of Continuous System Simulation Languages at \$10.00 per copy. (June 30th and July 1st, 1969 in San Francisco; 258 pages)	Name  Company  Address  City State Zip



## 1970 SUMER COMPUTER SIMULATION CONFERENCE

Don Lusty
2120 South Ash Street
Denver, Colorado 80222